

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Spearfish Creek, Lawrence County
09-0021-00
2014

Table 1. Population and Biomass Estimates for Spearfish Creek

Site Number: 477

Site Midpoint (Latitude, Longitude): 44.33239689, -103.90206721

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: BR1, RB0

Date Sampled: 07/05/2014

Site Length (m): 100

Mean Width (m): 8.8

Number of Pass: 3

Conductivity (umhos/cm):

pH:

Water Temperature (C):

Voltage:

300

Species	Size Class	Total Number Captured	Est. # in site	Upper 95% CI	Lower 95% CI	# per Hectacre	Kg per Hectacre	# per Km	# per Acre	lb. per Acre	# per Mile	Mean Length (mm)	Mean Weight (grams)
Brown Trout	<200mm	181	188	196	181	2143	80	1880	868	71.11	3025	118.3	37.2
Brown Trout	>=200mm	80	84	90	80	958	150	840	388	134.37	1352	237.1	157.2
Brown Trout	All	261	272	282	262	3101	266	2720	1256	237.80	4376	154.7	85.9
Rainbow Trout	<200mm	2	1	2	2	11	0	10	5	0.21	16	121.0	21.0
Rainbow Trout	All	2	1	2	2	11	0	10	5	0.21	16	121.0	21.0

Site Number: 621

Site Midpoint (Latitude, Longitude): 44.25495945, -103.92257741

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: BK2, BR1

Date Sampled: 06/25/2014

Site Length (m): 100

Mean Width (m): 8.0

Number of Pass: 3

Conductivity (umhos/cm):

pH:

Water Temperature (C):

Voltage:

Species	Size Class	Total Number Captured	Est. # in site	Upper 95% CI	Lower 95% CI	# per Hectacre	Kg per Hectacre	# per Km	# per Acre	lb. per Acre	# per Mile	Mean Length (mm)	Mean Weight (grams)
Brook Trout	<200mm	25	33	51	25	411	16	330	166	14.54	531	147.1	39.7
Brook Trout	>=200mm	8	8	9	8	100	10	80	40	8.88	129	210.3	99.9
Brook Trout	All	33	38	48	33	473	26	380	192	23.30	611	162.4	55.2
Brown Trout	<200mm	61	64	70	61	796	32	640	323	28.41	1030	127.4	40.0
Brown Trout	>=200mm	37	37	39	37	460	66	370	186	59.11	595	236.6	143.8
Brown Trout	All	98	102	108	98	1269	112	1020	514	100.39	1641	168.7	88.6

Stream sites are classified based on the estimates of adult trout over eight inches that exist within the site. Estimates are derived from 3-pass backpack electrofishing surveys at 100-meter sites within streams. While all fish in the site are collected and measured, only trout species are used for classifications. Sites are numbered in accordance for the distance (m) from the stream confluence of a higher order stream/river.

Based on number of trout in excess of eight inches	
Class BR1	Number of wild Brown Trout exceeds 150 per acre
Class BR2	Number of wild Brook Trout ranges from 25 to 150 per acre
Class BR3	Number of wild Brown Trout is less than 25 per acre
Class BK1	Number of wild Brook Trout exceeds 150 per acre
Class BK2	Number of wild Brook Trout ranges from 25 to 150 per acre
Class BK3	Number of wild Brook Trout is less than 25 per acre
Class RB1	Number of wild Rainbow Trout exceeds 25 per acre
Class RB2	Number of wild Rainbow Trout is less than 25 per acre

Table 2. Species composition and population estimates on Spearfish Creek, 2004-2014

Site 477

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout >=200mm	Aug 01, 2012	1	1-1	BK3
Brown Trout <200mm	Sep 03, 2008	249	240-258	
	Aug 04, 2011	319	272-366	
	Aug 01, 2012	214	207-222	
	Jul 25, 2013	148	139-158	
	Jul 05, 2014	188	181-196	
Brown Trout >=200mm	Sep 03, 2008	49	49-50	BR1

Brown Trout >=200mm	Aug 04, 2011	23	23-24	BR2
	Aug 01, 2012	57	57-59	BR1
	Jul 25, 2013	54	53-57	BR1
	Jul 05, 2014	84	80-90	BR1
Rainbow Trout <200mm	Jul 05, 2014	1	2-2	

Site 621

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Aug 21, 2008	88	77-102	
	Aug 11, 2011	76	76-78	
	Aug 02, 2012	132	127-139	
	Jul 23, 2013	114	72-175	
	Jun 25, 2014	33	25-51	
Brook Trout >=200mm	Aug 21, 2008	1	1-5	BK3
	Aug 11, 2011	7	7-7	BK2
	Aug 02, 2012	16	16-18	BK1
	Jul 23, 2013	12	12-14	BK2

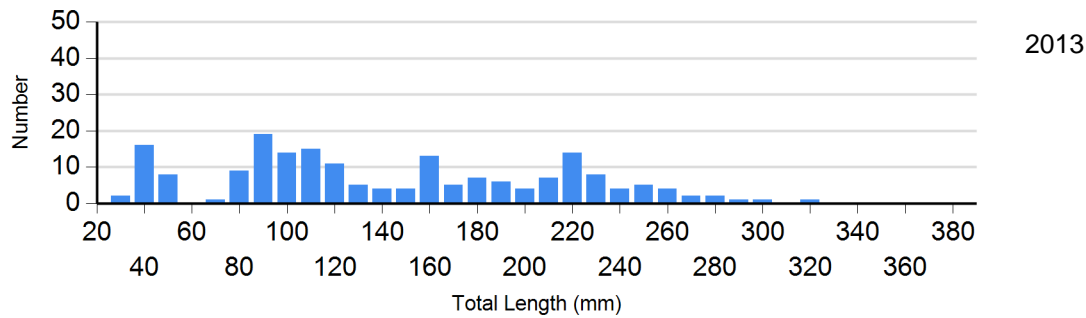
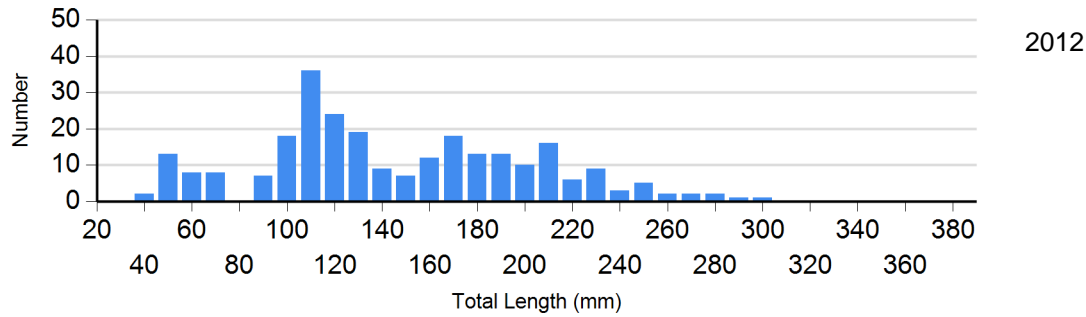
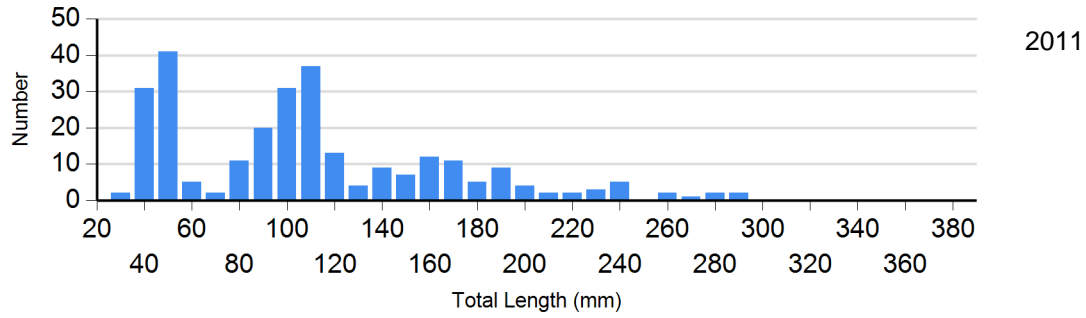
Brook Trout >=200mm	Jun 25, 2014	8	8-9	BK2
Brown Trout <200mm	Aug 21, 2008	28	28-30	
	Aug 11, 2011	19	16-28	
	Aug 02, 2012	66	55-82	
	Jul 23, 2013	400	85-1566	
	Jun 25, 2014	64	61-70	
Brown Trout >=200mm	Aug 21, 2008	6	6-9	BR2
	Aug 11, 2011	14	14-16	BR1
	Aug 02, 2012	28	28-30	BR1
	Jul 23, 2013	38	31-52	BR1
	Jun 25, 2014	37	37-39	BR1

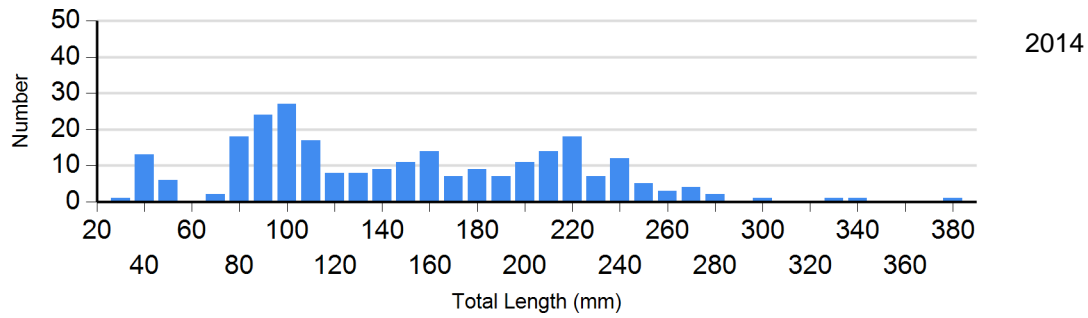
Length Frequency Distribution

Length frequency histogram of species sampled by year.

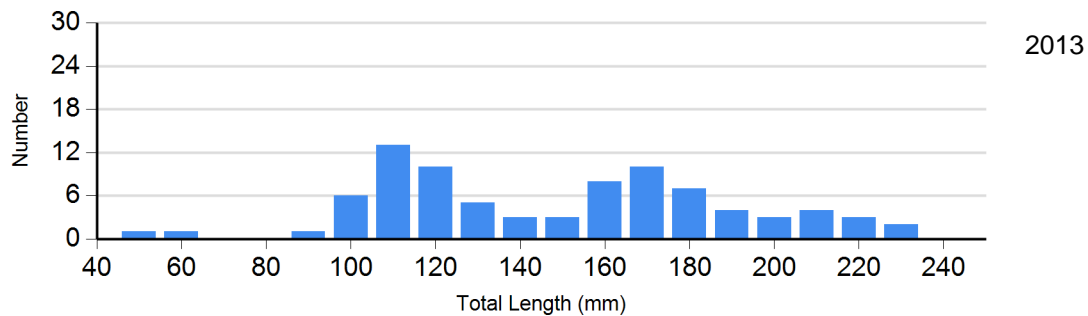
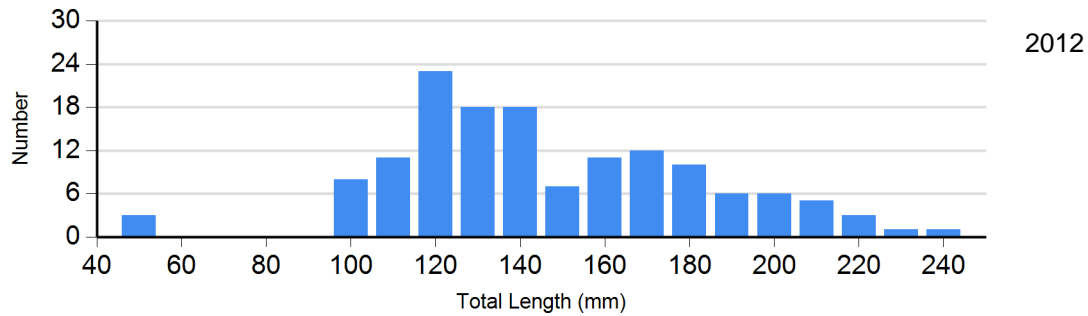
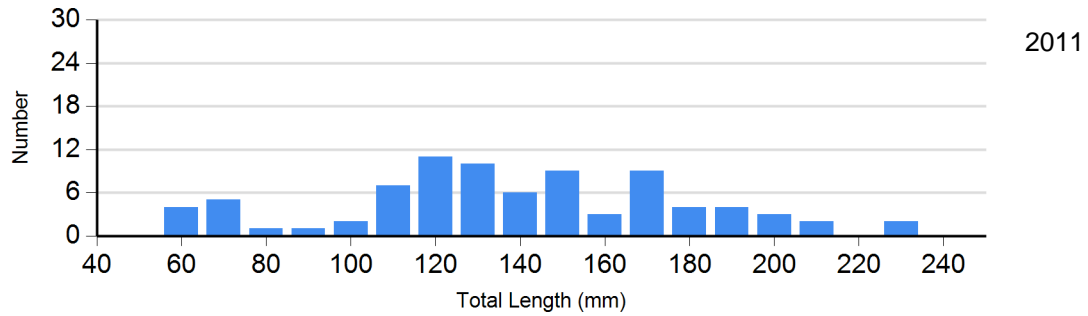
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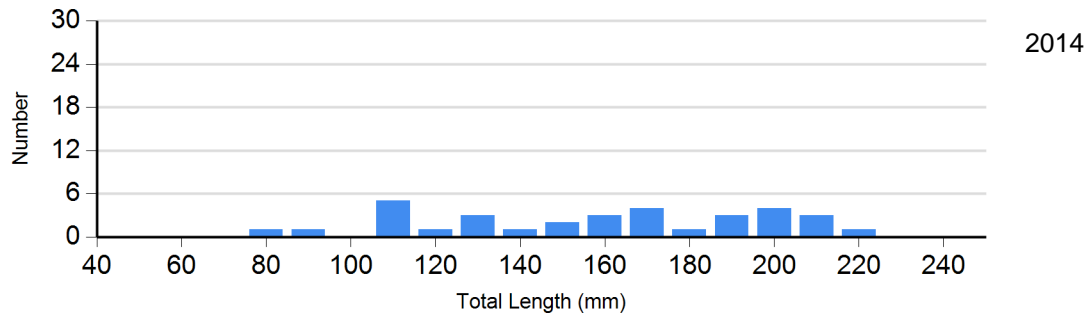
Species: Brown Trout



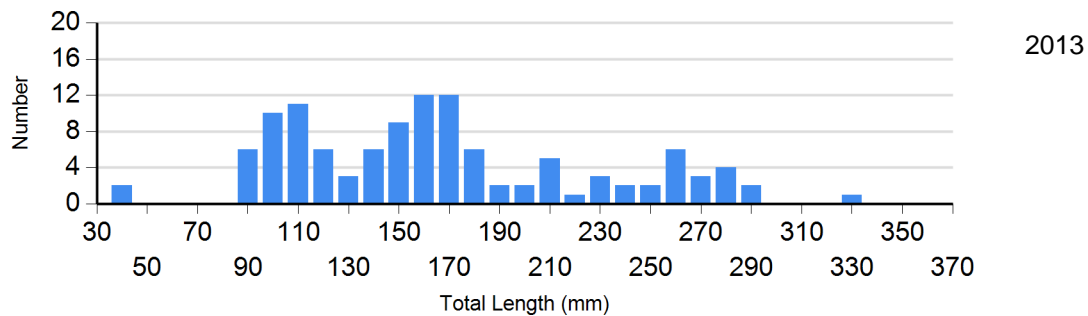
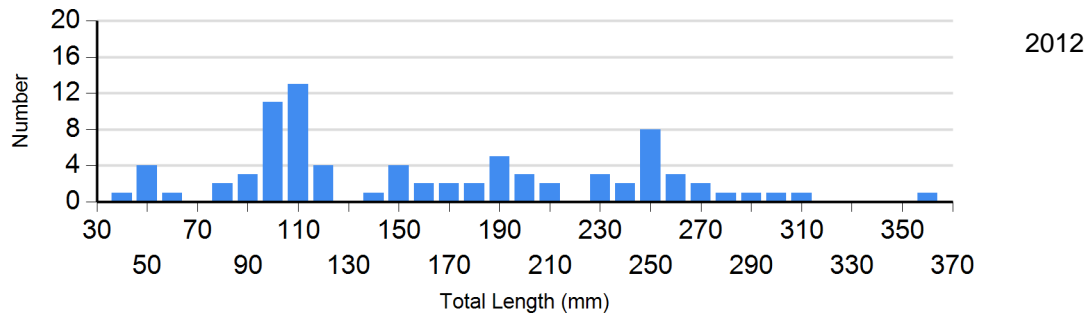
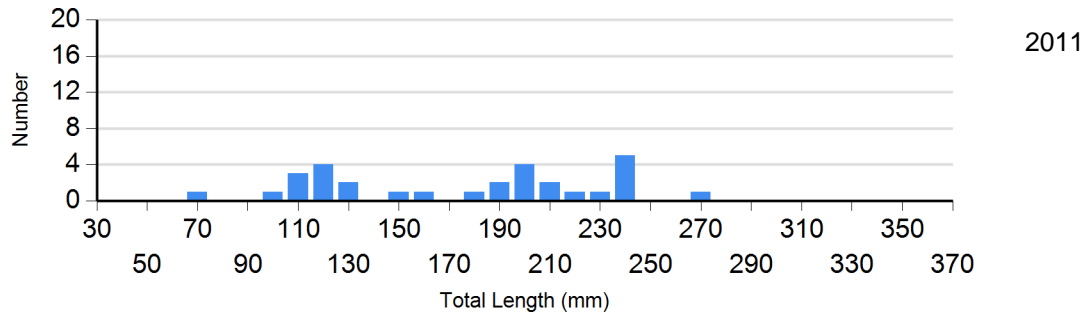


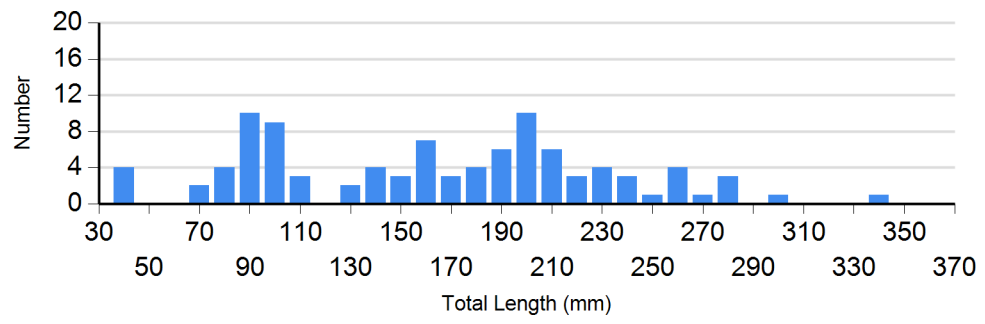
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Species: Brook Trout





Site: 621
Species: Brown Trout





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